

ABSTRACT OF THE DISCLOSURE

Electronic circuits based on molecular transistors, generally used in place of semiconductors. More particularly, the invention relates to a unique method of wiring of a three-terminal molecule (or an aggregate thereof) to serve as an electronic transistor, containing a gate electrode, a source electrode, and a drain electrode. The source electrode and drain electrode are fabricated from one metal and the gate electrode is fabricated from another metal. The usage of molecular properties in this context provides significant advantages over the fabrication methods of the prior art.